

## **IN THE SPECIFICATION**

Please add the following new heading and paragraph on page one, following the title and preceding the heading on line 5:

### **Cross Reference to Related United States Applications**

This application claims priority from “Framework for Interprocedural Analysis and Optimization in the Presence of Dynamic Class Loading”, U.S. Provisional Application No. 60/187,721, of Burke, *et al.*, filed March 8, 2000.

Please amend the paragraph beginning on page 19, line 12, as follows:

When JAVA is implemented in a static environment, such as the JAVA Application eXtractor (JAX), IBM HPCJ or Marmot, the static compiler expects the whole program to be present during the analysis. This is further described by: Laffra et al., in “Practical Experience with an Application Extractor for JAVA”, ACM Conference on Object-Oriented Programming Systems, Languages, and Applications, Nov. 1999; Fitzgerald et al., and in “Marmot: An optimizing Compiler for JAVA”, Technical Report MSR-TR-99-33, Microsoft Research, June 1999; ~~and IBM High Performance Compiler for JAVA, IBM Corp., 1997, described at <http://simont01.torolab.ibm.com/hpj/hpjj.html>, available for download at <http://www.alphaWorks.ibm.com/formula>.~~

Please amend the paragraph beginning on page 53, line 13, as follows:

Static JAVA compilers which perform interprocedural analysis and optimization, such as HPCJ and Marmot, do not allow dynamic class loading during program execution. JAX is a byte convertor for compressing application class files. It performs whole program analysis, but again makes a “closed-world” assumption. HOTSPOT and other JIT compilers do not support aggressive interprocedural optimizations. HPCJ is implemented by the IBM

High Performance Compiler for JAVA, IBM Corp., 1997, described at <http://simont01.torolab.ibm.com/hpj/hpjj.html>, available for download at <http://www.alphaWorks.ibm.com/formula>. Marmot is described by Fitzgerald et al., in “Marmot: An optimizing Compiler for JAVA”, Technical Report MSR-TR-99-33, Microsoft Research, June 1999. JAX is described by Laffra et al., in “Practical Experience with an Application Extractor for JAVA”, ACM Conference on Object-Oriented Programming Systems, Languages, and Applications, Nov. 1999. HOTSPOT and other JIT compilers are described by: Steve Meloan, “The JAVA HOTSPOT Performance Engine: An In-Depth Look”, Technical Report, Sun Microsystems, Inc., April 1999; and Ishizaki et al., in “Design, Implementation, and Evaluation of Optimizations in a Just-In-Time Compiler”, ACM 1999 JAVA Grande Conference, pp. 119-28, June 1999.